

REMARKS

Favorable reconsideration is respectfully requested in light of the above amendments and the following comments. Claim 1 has been amended to include the limitations of claim 3, which has subsequently been cancelled. New claims 19-21 have been added to round out the potential scope of protection. New claims 19-21 are supported, for example, at page 5, line 17 of the instant specification. No new matter has been added as a result of these amendments.

Applicant respectfully traverses the Examiner's rejection of claims 1-3, 8 and 9 under 35 U.S.C §102(b) as anticipated by Truckai, U.S. Patent No. 5,019,057. In order to anticipate, the reference must disclose each and every element of the claimed invention. Truckai fails to do so. Independent claims 1 and 8 each require that the second wire be a highly radiopaque metal. Contrary to the Examiner's assertions, steel (or stainless steel) is not highly radiopaque.

The Examiner is correct in noting that steel is radiopaque. However, different materials have substantially different levels of radiopacity. Highly radiopaque materials such as tungsten have radiopacity levels that are much higher than less radiopaque materials such as steel. Steel is not a highly radiopaque material, especially at the wire diameters used in forming a reinforcing braid for a catheter. This fact is notoriously well known to those of skill in the art.

To provide support for this knowledge in the art, Applicant conducted a quick search of issued U.S. patents in a medical device area that disclose details regarding radiopaque metals used in such devices. In U.S. Patent No. 5,664,580, entitled GUIDEWIRE HAVING BIMETALLIC COIL, it is stated, "Some materials are more radiopaque than others, with the more radiopaque materials being easier to see on the monitor than the less radiopaque materials. The majority of the guidewires commercially available are made of stainless steel or other metals having a similar radiopacity.

Stainless steel is not very radiopaque at smaller diameters, though, in most stainless steel guidewires below about 0.032 inches in diameter are provided with a radiopaque area adjacent the distal end to make the distal end of the guidewire more visible for deployment.” Another example is found in U.S. Patent No. 5,353,808, entitled GUIDEWIRE HAVING DISTALLY LOCATED MARKER SEGMENT, wherein it is stated, “In accordance with a preferred construction the flexible coil spring is constructed from two segments having different radiopacity. A stainless steel segment extends over the highly radiopaque marker bands that are spaced along the core wire. The stainless steel segment is connected to a highly radiopaque platinum coil spring segment that is visible when viewed on an X-ray viewing monitor.” Also referring to U.S. Patent No. 6,245,068, entitled RESILIENT RADIOPAQUE ELECTROPHYSIOLOGY ELECTRODES AND PROBES INCLUDING THE SAME, it is stated, “The radiopacity of stainless steel is, however, relatively low. Thus, while otherwise superior to coil electrodes formed from less resilient materials such as platinum or gold, stainless steel coil electrodes are difficult to visualize using fluoroscopic imaging techniques. The low visibility of conventional stainless steel coil electrodes makes it difficult to properly position the distal portion of the probe.”

If the Examiner persists in insisting that steel is a highly radiopaque material, references to that effect are respectfully requested. In the alternative, a sworn affidavit signed by the Examiner would be sufficient.

Truckai fails to disclose each and every element of the claimed invention and thus fails to anticipate. Withdrawal of the rejection is respectfully requested.

Applicant respectfully traverses the Examiner’s rejection of claims 1-18 under 35 U.S.C §103(a) as unpatentable over Sater et al., U.S. Patent No. 6,068,622, in view of Truckai, U.S. Patent

No. 5,019,057. Similarly, Sater describes reinforcing braids using steel wires. Sater is silent as to using a highly radiopaque material such as tungsten in conjunction with steel wires that are used for strength. Sater does not describe or suggest forming a reinforcing braid in which a highly radiopaque material is woven in as part of the braid.

As noted above, Truckai fails to describe or suggest the use of highly radiopaque materials woven into a reinforcing braid and thus cannot be considered as remedying the noted shortcomings of Sater. Thus, the cited combination fails to describe or suggest the claimed invention.

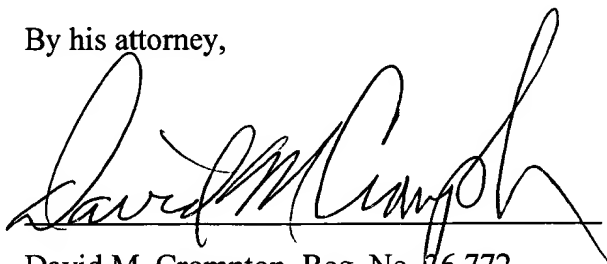
Reexamination and reconsideration are respectfully requested. It is respectfully submitted that all pending claims, namely claims 1, 2 and 4-21, are now in condition for allowance. Issuance of a Notice of Allowance in due course is requested. If a telephone conference might be of assistance, please contact the undersigned attorney at (612) 677-9050.

Respectfully submitted,

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By his attorney,

Dated: 12/12/02



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Marked Up Version to Illustrate Changes Made

In the Claims

Claim 3 has been cancelled.

Claim 1 has been amended as follows:

1. (Once Amended) An intravascular catheter, comprising:
an elongate shaft having a proximal end, a distal end and a lumen extending therethrough, the shaft including an inner layer, an outer layer, and a reinforcement layer disposed therebetween, the reinforcement layer comprising a first wire wound in a first direction and a second highly radiopaque metal wire wound in a second direction different from the first direction, the first wire interwoven with the second wire, the first wire having a first diameter and the second wire having a second diameter less than the first diameter.